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## FISHERY EXHIBITIONS.

HITHERTO, in this country we have been slow to move in the matter of Fishery Exhibitions; but now that more attention is being paid to the improvement of our fisheries, so far as improvement can be promoted by bringing to a focus the varied means and appliances incidental to present modes of securing the harvest of the sea, we are not likely to weary of the work, till all the good which can be derived from such exhibitions has been obtained. The Fishery Exhibition held at Norwich about twelve months ago proved successful; a considerable sum of money remaining in the hands of the treasurer after the expenses connected with it had been defrayed, and a honorarium voted to the Secretary, who worked so hard to insure its being successful. The good fortune—monetary and otherwise—attending the Exhibition at Norwich, seems to have incited to action in other quarters; and it is fixed that important 'shows' of a similar character shall be held in Edinburgh and London. It is to be hoped that both will prove successful, and place before us many improvements in fishing-gear and fishery economy.

Successful Fishery Exhibitions have been held in various continental cities and towns during the last twenty years, and many of these attracted a considerable amount of attention, visitors having come from great distances to examine the exhibits, and note such improvements as had been devised in the apparatus of capture and the economic uses of all kinds of fish. The most interesting of these foreign Exhibitions was undoubtedly that held at Arcachon, a place which has long been celebrated as an important centre of oyster culture and fishery enterprise, and where may be seen in operation suites of *viviers* or receptacles for sea-fish, devised by the fishermen of the basin of Arcachon, as a means of supply during stormy weather. All Fishery Exhibitions, it may be said, possess a strong family likeness each to the other; but the Exhibition we are now speaking about was

enhanced by an interesting show of living fish of many kinds displayed in a temporary aquarium; a feature which was very much missed at the excellent Exhibition of fishery material and products held at the Hague two years later, which in most other respects was well worth seeing, the display of many kinds of netting being exceedingly effective. Such Fishery Exhibitions as we have witnessed have each been remarkable for some speciality. A distinguishing feature of that held at Norwich was the encouragement given to Essay writing; a sum of about three hundred pounds was collected by the Committee for a series of Essays embracing various phases of the natural and economic history of the British food fishes, and also of the laws which regulate their capture. The money for this purpose was obtained from a variety of sources, the Worshipful Company of Fishmongers of the City of London, and other Associations, as well as many private individuals, being donors to the Essay fund. But what has become of the prize Essays? So far as we are aware, none of them have been published, which seems a mistake. Such writings can be of no public benefit till they have been given to the world; or, at all events, till a summary of their arguments and conclusions has been circulated among those most interested in the well-being of our fisheries.

Provision is in course of being made by the promoters of the Edinburgh Fishery Exhibition for no less than twenty-six prizes in this department. The Essays proposed are very varied, one of the most important being on 'Harbour Accommodation for Fishing-boats on the East and North Coasts of Scotland'; another, 'On the best Mode of increasing the Supply of Mussels for Bait'—bait in quantity being, in Scotland, the main-spring of the cod-line fisheries, which at some seasons cannot be effectively prosecuted for lack of mussels. It would be well if competitors for this essay were acquainted with the great mussel farm at Esnandes, near La Rochelle, which was some years ago described in *Chamber's Journal* (No. 660, August 19, 1876). The proper utili-

sation of 'fish-offal' is also suggested as a fitting subject for an essay. The fact that in Scotland a million barrels of herring are annually *cured*, each fish of which has to be gutted—seven hundred millions of individual herrings at least!—is sufficient to prove that the disposal to advantage of so much intestinal matter is a question of some importance. Among others of the suggested Essays, we find mention of the 'Herring Brand'; the Salmon Disease; the Natural History of the Herring, with special reference to its Migrations; the various methods of Oyster Culture and of Fish Culture; Salmon Legislation, and the best means of improving it; the Pollution of Rivers as affecting fish-life; the best method of Preserving Fish alive for markets; the species of Foreign Fish most suitable for introduction into British rivers and waters; the various means of Curing and Preserving Fish at home and abroad; and many other subjects of equal importance, which might well include Fishermen's Insurance, a subject which was treated by us last week in this *Journal*. It is to be hoped the Directors of the Edinburgh Exhibition will adopt some plan of making their prize Essays public either in whole or in part. If the funds should admit of that being done, a volume should be published containing the Essays and the awards made for exhibits.

In addition to the above, a large number of prizes will be offered for various exhibits. The competitions in this department will embrace specimens of tinned fish of all kinds; as also specimens of dried, salted, and smoked fish; likewise models or plans of fishermen's dwellings, of piscicultural establishments and of fish-curing yards. As regards the apparatus for catching fish, prizes will be given for an eel-trap which will not interfere with the other fisheries of any river on which it may be placed; an apparatus for capturing crabs and lobsters will also receive a prize; whilst models of all kinds of improved fishing-boats are solicited, as well as collections of stuffed fish and sea fishing-tackle, as also of improved herring and salmon nets; likewise collections of aquatic birds, and many other things of a practical kind which have connection with the arts of fishing. One important item is a prize for Models and Drawings of a handier and safer rig, for the boats now in use on the East Coast of Scotland, than the lug-sail, which requires to be lowered and turned round the mast at every tack in beating to windward. A rig to supplant the lug-sail has just been designed by a gentleman in the Highlands, as will be found more particularly referred to in our 'Occasional Notes' in this number.

In connection with the conserving of fish-food, a prize is offered for an essay 'On the Fish Supply of Great Cities, with special reference to the best methods of Packing and Distribution, and other means calculated to facilitate the delivery of the fish in good condition for market.' Such an essay, if well thought out in a practical spirit, might be the means of expediting a reform in our fish-marketing system which has been long wanted. So far, the Essay List and the Catalogue of Exhibits for which prizes are to be offered, follow the lines of former Exhibitions. It would have been interesting had a prize been offered for a

well-drawn chart showing the relation, to the extent of netting, of the quantity of herrings caught during, say, the last fifty years, at periods of seven or ten years. Such a device might do much to settle that vexed question which is continually thrusting itself before the public, as to whether or not our herring supplies are diminishing; seeing it to be an undoubted fact that the extent of netting used in the capture of these fish has been about trebled during the last half century. Time was when a fisherman could carry his suite of nets to and from the drying-ground on his back; now, a cart and horse are required to perform the same work; and yet we are assured by the Commissioners on the Herring Fisheries of Scotland that there is no sign of herring-scarcity. The fish, according to the *Report* of the Commissioners, are as plentiful as ever. Another subject in connection with such an Exhibition as that about to be held, might be an essay on the value of 'fish as food.' There are some persons who claim that fish is the most valuable of all the brain-making foods of the period, and who zealously advocate its constant consumption by authors and members of the learned professions. It is somewhat curious, however, if fish have the power of bestowing intellect on those who partake largely of such diet, that our fishermen should themselves lag so far behind. The fisher class are certainly not devoid of poetic sentiment; some of the women can read the clouds, and interpret the moaning of the winds and the voice of the waves; but, as a body, fisher-folk can scarcely be called an intellectual race; and, under such circumstances, it is highly desirable that we should know exactly the grounds on which it is claimed for fish that it helps to produce brain-power.

An exhibit which would probably prove well worthy of a money prize or medal, would be to show at a glance 'the products of a cod-fish,' the uses that can be made of its intestinal matter, its bones, its gelatinous parts, its skin, &c. Other exhibits of a similar character would be interesting; but probably there will not be space to admit of such details being entered into; nor can we hope to see so much of the material used in foreign fisheries as was exhibited at the Berlin Exhibition of 1880. At that excellently managed Exhibition, much was shown which was of great interest; but in such cases it was at the expense of a country, and not of any individual or private Company. The United States of America, for instance, exhibited a coloured cast of every important fish in their country, as well as a model of every important fishing vessel and boat; so full, in fact, was the American exhibit, that it at once conveyed to the spectator an excellent idea of the fishing system of the country. The commonest as well as the rarest of the American fishing implements were to be seen at Berlin. The value of the American State exhibit was fifty thousand dollars. The late Mr F. Buckland tried to do credit to this country by sending a number of interesting articles relating to the British fisheries from his Museum of Economic Fish Culture; but the British government sent no contribution. The pisciculture carried on in the United States was likewise

well represented at Berlin; and it must be admitted that the Americans excel in the arts of fish-culture, which they carry on both on their rivers and in the sea on a truly gigantic scale. 'We beat the world at that,' said an American gentleman to us lately. 'We do in tens of thousands what you do in hundreds. One of our rivers yields as many salmon as all your streams put together.' That statement is so far true; the Americans excel in fish-breeding; and nature, in the Columbia River, has given them wonderfully prolific salmon stream. But for all that is being done in the States in the way of pisciculture, fish are becoming scarce throughout America, and oysters less plentiful, vast as is the extent of oyster-ground across the Atlantic.

Another feature of the Berlin Exhibition which cannot be looked for in that of Edinburgh, we fear, was the Chinese collection; but that fact is only regrettable because the Chinese collection is 'curious'; it is only worth looking at as an example of the peculiar industry of a distant country. There is not much in the way of Chinese fishing-gear that we could copy in this country with the hope of its being useful to us. We could hardly fish with cormorants with any hope of commercial success, nor would their bamboo-mounted nets suit our purposes. One of the chief fishing industries of the Celestial Empire is the cuttle-fishery; nine thousand vessels and fifty-four thousand men are engaged in this fishery alone. The chief seat of the Chinese fisheries is at Ningpo; and Mr Hart, the Inspector-general of Customs there, thinks there are eighty thousand persons engaged in the fisheries.

Coming back to the colder seas of Great Britain and the Fishery Exhibition about to be held in Edinburgh—the London Fishery-show will not take place till next year—it may be interesting to state that the annual value of the British fisheries, to the men who capture the fish, is over eleven million pounds sterling! The fish are caught by over one hundred and ten thousand fishermen and boys, who require as many as thirty-five thousand boats to carry on their work. These figures relate only to the sea-fisheries; the river-fisheries will be worth about a million pounds additional.

To provide such a fleet of fishing-boats, and supply the requisite kind and amount of gear for the capture of the fish, has undoubtedly involved a large expenditure. If some of the fishery apparatus now in use could be shown, at a Fishery Exhibition, as it is used, it would undoubtedly form a fine feature of the show. A herring-boat, for instance, at the present time carries a suite of nets extending fully three thousand yards in length and ten yards in depth, presenting to the fish a catching surface of thirty thousand square yards. An attempt was made to show suite of nets at the Hague, though the display had to be curtailed, for want of room. Though it would of course be impossible to show an entire suite of nets duly hung, a portion of the Waverley Market of Edinburgh in which the Exhibition is to be held, might be allotted for the display of a portion of netting bladdered, weighted, and hung as in the sea. A few dummy herrings might even be thrust into

the meshes, to show how they 'strike' the perpendicular net. The catching power of each herring-boat in Scotland, so far as the nets are a factor in the work, has been largely increased within the last twenty years; and it has been calculated that the total of the herring-nets now in use in the Scottish seas would, if all the nets were joined in a continuous line, extend twelve thousand miles, and cover a superficial area of seventy square miles! Those who, at a Fishery Exhibition, see only a great pile of nets heaped together in a mass, can obtain from the sight no idea whatever of the formidable character of the great perforated wall of filmy cotton that is let down into the sea to interrupt the speeding fish, and capture them in tens of thousands for the use of mankind. Nor does a show-case containing a few score hooks give anything like an idea of the long lines used for the capture of deep-sea fish; and in the same way as we desire to see a display of the herring-nets, we would like also to see a full suite of long lines baited and ready—an artificial bait could be used—for action. It requires to be kept in mind, however, that a Fishery Exhibition can only be made up of what is sent to it; it is in a sense a commercial speculation, the chief exhibits being displayed as a means of attracting customers; and as for the more interesting and out-of-the-way fishery apparatus, they can only be shown if they are received. One of the most curious things of the kind we ever saw was a salmon trap which was exhibited at one of the Boulogne Fishery Exhibitions; it was made to work with the flow of the water; it was entirely self-acting; and each fish that was secured in the chamber gave notice of its capture by ringing a bell which formed part of the machinery! At the *viviers* of Arcachon, already alluded to, M. Boisère has so studied their construction that he is enabled to work them with very little assistance—six persons only to three hundred acres of water. If a plan of these *viviers* could be given at the approaching Exhibition, it would be of great interest; as would also a really good chart of the labyrinths of the extensive eel-farm of Commachio on the Adriatic Sea, and plans of the piscicultural laboratory of Huningue.

It will be a feather in the cap of the Edinburgh Fishery-show if it is able to teach us, by means of either its essays or exhibits, what we most want to know in the work of the fisheries. There are certain data in the natural history of most of our food fishes, of which, notwithstanding all that has been written and spoken on the subject, we are still ignorant. One of the great questions appertaining to the subject may be formulated here: 'At what age do these animals become reproductive, and how long is it ere their eggs come to life?' How best to fish, so as only to capture those fish which have just arrived at the proper size for table use, is still an unsolved question in fishery economy; and if that point could be determined at the forthcoming Exhibition, it would signalise the accomplishment of a bit of useful work. That the most economic ways of fishing have not yet been discovered, is obvious enough to all who have had an opportunity of studying the practical work of our fisheries. In the herring-fishing season, cartloads of the ova of these fish are wasted, it being the rule to

capture herrings, if possible, just as they are about to spawn. On board a cod-smack we have seen countless millions of the eggs of the cod-fish which never could become of use. In fishing day after day, tens of thousands of immature soles and haddock are captured and brought ashore to be sold; it is surely a subject of regret that these fish cannot be left in the sea for another year, when they would grow to double the value.

The forthcoming Exhibition is sure to prove interesting, especially in the hands of a fishery Commissioner such as Mr Archibald Young, to whom the credit is due of having suggested Edinburgh as a centre for operations, and who, as Honorary Secretary, has had most to do with carrying out the necessary arrangements. The office of the Exhibition Committee is at No. 3 George IV. Bridge, Edinburgh, and the Acting Secretary is Mr Henry Cook, W.S. We may add that all essays intended for competition must be lodged with the Secretary on or before Monday, 3d April.

### VALENTINE STRANGE.

#### A STORY OF THE PRIMROSE WAY.

##### CHAPTER VI.—‘HALF A MILLION OF MONEY IS SOMETHING CONSIDERABLE.’

MR JOLLY senior was not a wealthy man, as times go, and his daughter Constance was a trouble to him. The new resident at the Grange had a great faculty for laying on other people's shoulders the burdens which belonged to his own; but there was no one to whom he could so relegate Constance. Mr Jolly characterised his daughter as ‘a reasonably good-looking sort of girl,’ and expected her to marry some day; and he sighed for that day's arrival as the Arab pilgrim sighs for the desert well. If he committed extravagances, they were condoned by conscience as necessary preparations for Constance's settlement, though he did penance for every one of them in bilious growlings. The Grange itself was a matrimonial fly-trap. Horses, carriages, servants were matrimonial lures. Mr Jolly hated keeping house, and pined for his deserted chambers in the Albany. But Constance must have a basis for her operations, and the Grange served. If she succeeded in hooking nobody during the off-season, a town-house must be taken, and her father groaned to think of the expenses.

Mr Jolly was a proud man too, and in spite of all his growling, would not have things done meanly. His was not the pride of wealth, for he had little. It was not the pride of intellect, for he had less. It was not the pride of birth, for he had no glorious ancestry to boast of, and was merely the eldest son of a country gentleman, and the descendant of many country gentlemen of small note in their own day, and no remembrance after it. Mr Jolly's pride was centred in himself. He was proud of himself for being himself, and might have been puzzled to have found a better reason. Some of his friends had told him that he ought to be proud of his daughter; so he became a little prouder of himself, if that were possible, for having

such a daughter. He was not proud of anything but himself; but if he owned anything that another man would have been proud of, it swelled his own consequence in his own eyes. Yet, it was curious to notice that with all his pride he fawned upon a title as few men in this favoured country and in these republican times can find it in their hearts to do.

The father's condition of mind was not unfavourable to Gerard's chances—if Gerard could have known. The only son of a wealthy British merchant was not to be despised as a possible husband for Constance; and Mr Jolly had booked Gerard in the tablets of his memory with half a score of others more or less eligible. Gerard was unknown to trade—the senior Lumby had almost altogether withdrawn from active participation in it; it was rumoured on the best authority that the firm was wealthy even amongst wealthy London firms. There was nobody in the county—excepting a middle-aged bachelor baronet of very old family, and a young lord whose title had begun with his father—the contemplation of whose possible advances so filled Mr Jolly with pleasant hopes. And Gerard before three months had gone over his head after that memorable chance meeting in the lane, had given ample evidence of his enslaved condition. Sir Fawdry Fawdry made no advances, though he permitted his admiration to declare itself openly. That youthful nobleman Lord Solitair, came and went, seeming uncertain of his own mind, if indeed he could be said to have a mind, and finally retired ‘resigned,’ like Carlyle's Blumine, ‘to wed some richer.’

All the while our stricken Gerard, after the manner of lovers, looked with a desponding eye upon his own chances, and regarded all men as rivals. The summer and the harvest went by, and winter drew on apace. Then came the hunting season; and Constance rode to the meet now and again with her father, and Gerard's opportunities increased. He was shy, the poor Gerard, and would not and could not run after his sweetheart as a bolder man would have done, so that he was compelled to trust much to cunningly devised accidents for occasional meetings. Constance did not follow the hounds; and Gerard, compelled to leave her side when the fox broke cover, was unhappy, and found no great joy even in ‘the chase,’ keenest of pleasures hitherto.

‘My dear,’ said Mr Jolly, staidly riding homewards from the meet at his daughter's side, ‘I am very favourably impressed with young Lumby—very favourably impressed indeed.’

‘Don't you think he's a little *gauche*, papa?’ asked Constance.

Mr Jolly smiled, his brown withered face wrinkling like old parchment. ‘Perhaps so, my dear—perhaps so,’ said he, and jogged on, smiling still. ‘You at least may have a right to think so.’

‘Why should I think so more than another?’ asked Constance.

‘There are conditions,’ said Mr Jolly, his eyes wrinkling in a still broader smile, ‘under which young men invariably appear a little awkward.’

Constance looked round upon him with a glance of some impatience; but she answered smoothly

enough : ' You are quite incorrigible. You are as fanciful as any matchmaking old lady.'

Her father instantaneously became serious. ' Have I ever been mistaken ? ' he asked. ' Have I been once at fault ? '

' You were mistaken,' said Constance, tossing her pretty head disdainfully, ' about Sir Fawdry Fawdry. You were at fault about Lord Solitair.'

' My dear,' returned Mr Jolly, ' I only profess to read symptoms. I do not profess to be a prophet. Sir Fawdry and young Solitair were both deeply smitten—but—'

' Nonsense ! ' said Constance ungraciously.

' But,' pursued her father, disregarding this interjection, ' people marry nowadays for money. Your face is your fortune, Constance. At least it is the better part of it, and men know it. Your brother Reginald must be provided for. By all law and justice, I am bound to deal well by Reginald. And you, my dear, must do as well as you can. Meantime, I am very favourably impressed with young Lumby—very favourably impressed indeed.'

' Very well, papa,' returned Constance ; ' we shall know in time. I am not skilled in the reading of symptoms ; but this affair will probably end like the rest.'

' My dear,' cried her father, ' you are ridiculous—positively ridiculous. One would think, to hear you talk, that instead of being in the very freshness of your youth, you were an old woman, and had had a life of disappointments.'

' Papa,' said Constance severely, as one whose mind was made up past altering, ' the days of romance are gone and over. Sir Cresus Cresus marries Lady Midas, a fat widow with a lapdog, and admires the poor pretty Phyllis from a safe distance.'

' And what becomes,' asked Mr Jolly, ' of poor pretty Phyllis ? '

' That depends,' said Constance. ' Perhaps a Gnome from Staffordshire, or a Cyclops from Wales, runs away with her—that is, if she is lucky ; perhaps, if she is silly enough, she marries Corydon, and lives in a cottage, and cultivates the virtues of cottage-life—envy and ill-temper and vicious-headache. Perhaps Corydon jilts her—being wise in time—and marries Lady Cresus, a second time widowed.'

' And so, Romance is born again,' said Mr Jolly with his wrinkled smile.

' For Lady Cresus,' said Constance. ' And there is the moral of my song, papa.'

' Which is ? —'

' That when you have married twice for money, you may, if you have survived that double ordeal, marry once for liking.'

' And so, Romance is born again,' said her father a second time. ' It is impossible,' he quoted, with a dim remembrance of his classic days, ' to expel Nature, even with a pitchfork.'—Constance laughed, and they rode on a little while in silence.—' You don't dislike young Lumby, do you ? ' he asked at the close of this pause, turning a somewhat anxious face upon her.

' No,' she answered carelessly. ' He is well enough.' Then there was another pause.

' My dear,' said Mr Jolly in a confidential tone, pressing his horse so near to hers, that his knee touched the off-side flap of her saddle, ' young

Lumby cannot have less finally coming to him than half a million. Even in these days of huge fortunes, half a million of money is something considerable.' Mr Jolly, like many men of limited income, had permitted himself to think of colossal fortunes more than was altogether wholesome for him, and his tone in speaking of money was always large and unconcerned. ' He thought of a few odd millions' like a Chancellor of the Exchequer, and would speak of them in the same vein.

' Considerable indeed,' returned Constance, who in monetary matters was severely practical.

' He is richer than Sir Fawdry,' said her father, ' and probably as well to do as young Solitair.'

Mr Jolly's veneration for the aristocracy naturally displayed itself in familiarity. I have no desire to be obscure. Let me explain. Mr Jolly in a lord's presence fawned upon the lord ; but in the lord's absence, he used his name in an everyday fashion, to feed his own sense of his own importance. And a lesser reverence than his own for lordship could not have made the title seem important enough to do that. Therefore—so complicated a thing is snobbery—a most genuine reverence and worship bred a sometime seeming irreverence of speech. I am sometimes almost persuaded that if our House of Peers could guess the sum of snobbery which their presence creates among us, they would of their own free act abolish themselves, and spare the country much republican oratory.

' Papa,' said Constance, ' there is a vulgar fable about an old woman who counted her chickens before they were hatched. But,' she added, smiling again, ' the wisdom of our ancestors is wasted upon you—altogether wasted. You were counting already, you stupid dear, what could be done with half a million. I know you were.'

Mr Jolly absolutely blushed. That had been indeed the mental effort of the moment, and he had seen his daughter enthroned in Lumby Hall, and himself freed of all anxieties. ' One counts many unhatched chickens,' said he, recovering himself. ' It is the privilege of mankind to hope. When I see you settled, my dear,' he added almost with pathos, ' I can die in peace.'

' Pray,' said Constance, ' make the settlement less remote.'

The satire of this feminine thrust was too subtle for Mr Jolly ; but in the fullness of hope he took a more cheerful tone. ' Cresus is coming along, my dear—plain Mister Cresus ; but not much the worse for that, after all.'

' Cresus,' said Constance, ' will marry Lady Midas, as already arranged.'

' And Phyllis ? ' said her sire, reverting to the former parable.

' And Phyllis will die an old maid.' There was not a creature in sight in all the widespread fields. A hundred yards away, the lane in which they rode dipped suddenly with a curve, and the hedge rose high, thick with prickly holly leaves and red berries. The air was as blithe and soft as that of a spring day. ' A southerly wind and a cloudy sky,' with rifts of soft blue in it, and the fresh gentle breath of the soil, and once or twice across the fields the tongue of the distant pack, proclaimed it a hunting morning. ' Phyllis,' said Constance roguishly, ' will die an

old maid.' And there, in the complete loneliness of the fields, she began to sing :

Ilka lassie has a laddie;  
None, they say, hae I;  
But a' the lads they smile at me  
When comin' through the rye.

Her voice was just as perfect as her face—a very rich and mellow mezzo-soprano, not of so rare a type as her beauty, but as perfect of its kind. Now, it happened, as if set there as a warning to all young ladies against the practice of singing in the open air, which, though natural to youth and good spirits, is opposed to the dictates of fashionable reserve—it happened that a young man stood at that moment in the hollow beyond the high hedge of holly. He had alighted from his horse, and was anxiously inspecting a hoof, and making himself a little muddy in the process, when the first notes of the sweet voice struck upon his ear. He raised himself, let go the horse's foot, and listened. The little carol was sung with exquisite grace and archness, and the young man smiled.

'If your face matches your voice,' he said to himself, 'you won't have to mourn long, young lady.' When the voice ceased, the sound of hoof-beats on the soft road became audible; and down the slope and round the bend in the lane came Mr Jolly and his daughter. Now, no man can paint in words a pretty woman; and even Leigh Hunt's charming apology for failure will not greatly help him :

Let each man fancy, looking down, the brow  
He loves the best, and think he sees it now.

For some of us have loved homely women in our time—what a provision of Nature that is to be thankful for!—and have found a beauty beyond beauty, in plain faces. But if no word-painter can show you a reliable, recognisable portrait of a pretty girl, what is to be done when he comes to actual loveliness? What can he do beyond pleading the inutility of his art—its utter helplessness? Yet, I would fain give you some semblance to the picture to carry in your mind. Fancy, then, a form—not too Juno-like, but ripe and round—clad in a habit of black broadcloth, with scarcely a single crease or wrinkle from the waist upwards; a form which swayed with the horse's motion, and yet preserved a sense of firmness—the little gloved hands low down with a look of mastery at rest; the little hat raking forward slightly, with an air not altogether coquettish, on a head altogether stately, with one superb knot of living gold behind; a face charming in all its lines, and fresh with hues of health and airs of heaven, and on the face a little touch of fun, of pride, of wonder—a startled look, with hauteur and humour in it, at remembrance of the song and the sudden encountering of this unexpected stranger. And beneath this vision, a steed of price, who bore the lady as though he loved her and were proud of her, with high stately step, free yet mincing, like a cavalier in a minuet. This was the sight which broke on the eyes of Valentine Strange, when Constance and her father—whom, by the way, you may, if you choose, leave out of the picture—came dancing round the holly hedge at the bend of the lane.

Val raised his hat. 'I beg your pardon,' he

said, addressing Mr Jolly, 'but my horse has caught a stone, and gone dead-lame. I see that you have a hoof-picker on your saddle; and I should be awfully obliged if you would lend it to me for a moment.—I'm sure I'm very sorry to detain you.'

'Not at all,' said Mr Jolly, fumbling at the strap which held the hook, with his gloved fingers.

'Allow me,' said Val; and possessing himself of the hoof-picker, deftly whipped out the stone from his horse's hoof, and restored the little implement to its place with a cordial 'Thank you.'

'Not at all,' said Mr Jolly once more with great majesty. Constance had ridden on during this pause, and was perhaps two hundred yards ahead, when Mr Jolly, returning Val's salute, rode on again, and in little space overtook her. Mr Strange meantime having inspected all his gearing, remounted, and went rocketing up the lane in pursuit.

'What a beauty!' said Val to himself. 'I must have another look at her.' Reaching the lady and her father, he flourished off his hat once more, and drew in his horse to a walk. Want of self-possession had never been among Val's failings. 'Immensely obliged to you, sir,' he said. 'It was a most fortunate thing for me that you came by just then.'

Mr Jolly bowed, and branched off at a lane which bore to the left. 'Good-morning,' from Mr Jolly.

'Good-morning.—And again, thanks,' from Val.  
*(To be continued.)*

#### NEWGATE PAST AND PRESENT.

##### IN TWO PARTS.—PART II.

THE shocking state of the prison, and the consequent frequent outbreaks of the malignant form of typhus known as 'jail-fever,' which in 1750 spread to the Old Bailey Courthouse, and caused the deaths of Baron Clark, Sir Thomas Abney, the Lord Mayor, some of the jury, several barristers, and a number of the spectators, led to an examination of the building in 1770; the result being that it was pronounced 'so old and ruinous that it was neither capable of improvement nor tolerable repair.' A government vote of fifty thousand pounds, coupled with the gift by the City of additional ground for the enlargement of the jail, hastened the execution of the sentence of demolition upon Old Newgate. The task of rebuilding the jail was intrusted to Dance, the architect of the Mansion House; and the first stone of the new erection was laid by Alderman Beckford in 1770.

The work proceeded slowly; and the new prison was not yet completed, nor 'Old Newgate' entirely removed, when the outbreak of the Gordon Riots in 1780 added a new chapter to its history. The so-called Protestant Association having presented their absurd 'No Popery' petition to the Commons, and having failed to secure more than six votes in its favour, an unruly mob took possession of the streets, and for five days carried on a work of wholesale plunder and destruction. On the 6th of

June, having destroyed several Roman Catholic chapels, and the houses of many of the leading Romanists, they turned their attention to Newgate, whose governor, Mr Akerman, having received warning of the danger, had made hasty preparations for their reception. The *Old Bailey Sessions Paper* graphically describes the scene. The attack commenced on Akerman's house, which was soon broken into and fired, and his furniture dragged into the street, and broken up to supply torches and firewood for further mischief. An organised attack was then made on the various prison gates; but finding them too strong to be forced, the rioters piled the debris of Akerman's furniture against them, and fired the pile. The warders made heroic efforts to protect the gates, which they deluged with water, to prevent the metal-work from melting; but meanwhile the flames from the governor's house spread to the wards; defence became hopeless; the mob entered the burning jail, liberated the prisoners—some of them showing familiar knowledge of the intricate interior of the prison—and finally reduced all that was combustible of the building to ashes. So perished the last remains of 'Old Newgate.'

The new jail, then in course of erection, having suffered severely in the fire, the repairs were rapidly pushed forward; but it was not until three years later that the new prison was ready to receive its inmates, having cost by that time nearly double the original government grant of fifty thousand pounds. Principally owing to the representations of John Howard, who, in the course of his term of office as Sheriff, had made it his business to inquire fully into the condition and working of the jail, and had reported the results of his investigation to parliament, the principles upon which the new building was constructed were a great improvement upon those of 'Old Newgate.' But many of the worst evils remained, no provision being made for the classification of the prisoners; while the sanitary arrangements were so bad that outbreaks of 'jail-fever' were still frequent.

At the commencement of the present century, a more virulent outbreak than usual, at a time when there were no less than eight hundred prisoners within the walls, led to a resolution of the Council to remove the Debtors' prison; and this very necessary step was carried out in 1815, prisoners of that class being removed to the adjacent Compter in Giltspur Street. This building—now no more—had also been erected by Dance, to take the place of the old Wood Street Compter; but, so far as the debtors were concerned, the change was hardly for the better, their new quarters being described as 'one of the worst managed and least secure of the metropolitan prisons.' Newgate was, however, relieved of the evil of over-crowding, which had been an active agent in the spreading of disease, both physical and mental; and the first step was thus taken towards improving the condition both of the prison and of its inmates.

The present jail is a solid, stone-built edifice, designed with a view to security rather than beauty; but the massive style of its architecture entitles it, externally at least, to a foremost place

among the buildings of the City. Its principal front is three hundred feet in length, and the depth is one hundred and ninety-two feet, a portion of the older erection extending a further distance of fifty feet in Newgate Street. Like its predecessor, it consists of three distinct portions; the centre, containing the residence of the governor, with the chapel behind it, being flanked by two wings, consisting of yards, wards, and cells for the confinement of the prisoners. The internal arrangements have been completely remodelled of late years, to provide means for complete separation of the prisoners.

On the opening of the new jail, the scene of execution was transferred from Tyburn to the exterior of Newgate, the drop being erected outside the Debtors' Door. This continued to be the customary place of execution until the passing of the Act of 1864 abolishing public executions, since which, the sentence of death has always been carried out within the walls. This salutary change must have caused a considerable reduction in the incomes of householders whose windows overlooked the fatal Debtors' Door, as the interest shown by the public in the horrible spectacle of an execution, enabled occupants of houses in the Old Bailey to reap a golden harvest on those occasions. It is said that no less than twelve pounds was on one occasion paid for the privilege of witnessing an execution from the first-floor windows of one of these houses; and even the roofs used to be crowded, for hours beforehand, with eager spectators; while the street itself was blocked with carts and carriages, the occupants of which beguiled the time of waiting with cards and refreshment.

Though the building itself was an improvement upon its predecessor, the Reports of the Inspectors of Prisons, in the early days of the present jail, show that, so far as the management of the inmates was concerned, Howard's efforts had been of little or no avail. As we have mentioned, no classification of the prisoners was yet attempted. Robberies continued to be planned, and the uninitiated were bullied, as before. The Parliamentary Report of 1814, speaking of the chaplain, Dr Forde, says: 'He knows nothing of the state of morals in the prison; never sees any of the prisoners in private; never knows that any have been sick till he gets warning to attend their funeral; and does not go to the infirmary, for it is not in his instructions.' Attendance at the chapel was entirely voluntary; gambling, drinking, and the like, were the only occupations; and the old prisoners instructed the younger ones in the deftest feats of robbery.

The cause of the female prisoners was taken up in 1817 by Mrs Fry, 'the female Howard,' under whose auspices a Society, known as the 'Ladies Prison-Visiting Association,' was formed, the unremitting and unselfish efforts of whose members met with almost incredible success. Not only was the moral welfare of the unfortunate women promoted, but they were also encouraged to spend their time in various sorts of useful work, the proceeds of the sale of which were employed, partly in bettering their condition while in jail, and partly in securing for them honest employment on the expiration of their terms of imprisonment.

On the male side, however, there was no change for the better; and in 1836 the Inspectors of

Prisons spoke of Newgate as 'a fruitful source of demoralisation ;' but no notice was apparently taken of the Report; for again in 1843, we find them describing the condition of the prison as such that 'the prisoners must quit the prison much worse than they entered it.' This state of affairs was rendered even worse by the fact that no employment of any kind was provided for the prisoners, and that even untried prisoners, innocent and guilty alike, were compelled to herd together with the most hardened of the convicts. It is hardly necessary to remark that a great change has been effected of late years in all these respects. Newgate is no longer a convict establishment, being now devoted only to the detention of prisoners awaiting trial at the Old Bailey, and to those who, after sentence is passed, return thither until arrangements are completed for their removal to a convict prison.

A School, to which boy-prisoners up to the age of sixteen were admitted, was started in 1814; but attendance was quite optional, and it is hardly wonderful that the boys preferred the conversation and tales of crime of the elder prisoners, to the instruction of the schoolmaster. But the Report of 1875 speaks encouragingly of the provision for the education both of boys and of their illiterate elders, though the Inspectors remarked that the duties of the schoolmaster were somewhat interfered with by his also holding the post of photographer to the prison. The chaplain's duties are also performed in a manner strongly contrasting with the laxity of Dr Forde's rule; while the bodily wants of the inmates are attended to on a scale which, though not precisely luxurious, is doubtless superior to what many of them are accustomed to in private life. For breakfast and supper, each prisoner is provided with a pint of oatmeal gruel or 'skilley,' each male receiving eight ounces, and each female six ounces, of bread in addition. Dinner, on four days of the week, consists of three ounces of cooked meat without bone, and half a pound of potatoes, with the same quantity of bread as at breakfast; while on the remaining three days, a pint of soup takes the place of the allowance of meat.

Many well-known and well-remembered names appear in the roll of inmates of the present jail. Among those who have suffered the penalty of death outside the Debtors' Door, perhaps the most notorious were the Cato Street Conspirators, five of whom were executed in 1820 for conspiring to murder the entire Cabinet on the occasion of a dinner-party at Lord Harrowby's, and for the actual murder of one of the constables employed to effect their arrest. Four years later, the sentence of death for forgery was executed upon the celebrated banker Fauntleroy, who is supposed to have defrauded the Bank of England of no less than four hundred thousand pounds, by means of forged powers of attorney. A curious circumstance connected with his crime was that he had kept an accurate list of those whose names he had forged, with an account of the result of each transaction, and that he had planned the whole as an elaborate scheme of revenge against the Bank, which had caused him heavy business losses by refusing to discount his acceptances. Another remarkable criminal who suffered for his crime at Newgate was Courvoisier a Swiss valet, executed in 1840 for the murder

of his master, Lord William Russell. The crime was committed in the hope of saving its perpetrator from detection for thefts of which he had been guilty while in the service of his employer. Among other inmates of the present jail, occurs the name of Lord George Gordon, whose followers destroyed 'Old Newgate.' Having been convicted in 1788 of libelling the Queen of France and the French ambassador, he fled to Holland; but was arrested, and consigned to Newgate, where he died of jail-fever five years later.

A sketch of the history of Newgate would be imperfect without some mention of the curious literature which owes its existence to the gloomy jail and its surroundings. Some specimens we have already mentioned; nor need we do more than refer to the numerous published accounts of casual visits to the prison, or to such vivid pictures of life within its walls as that in *Barnaby Rudge*; but among the less familiar Newgate literature are such rare works as *The Discovery of a London Monster called the 'Blache Dogg of Newgate'*, a quaint tract, published in 1638, purporting to contain a revelation, in the form of a dialogue between the author and a prisoner, of the doings of some of the inmates of the jail. The author tells us that 'the Blache Dogg is a black Conscience, haunting none but black-conditioned people, such as Newgate may challenge to be guests.' Next in point of time, we come, in 1677, to *'News from Newgate': or a True Relation of the Manner of taking Seven Persons, very notorious for Highwaymen, in the Strand, upon Monday the 13 of this instant November, 1677*; and of another apprehended on Friday the 16th: all now prisoners in Newgate; with an Account of several Grand Robberies committed lately in Divers Places; and particularly, how Fifteen Countrymen returning from a Fair were set upon by Seven Highwaymen, who took from them several Hundreds of Pounds; as likewise the Robbing of a Stage-coach, and strange Discovery of some of the Thieves now in Custody, by means of two of the Passengers supposed to be Confederates with them.'

In 1717, Newgate made two curious contributions to English literature, one bearing the title of '*The History of the Press Yard*: a brief Account of the Customs and Occurrences that are put in Practice in that ancient Repository of Human Bodies called Newgate'; from which the curious reader may gain a vivid insight into the horrors of prison-life a century and a half ago. The other is '*The Secret History of the Rebels in Newgate*', giving an Account of their daily Behaviour from their Commitment to their Jail Delivery; taken from a Diary kept by a Gentleman in the same Prison.' Here we have what professes to be the report of an eye-witness, of the profligacy and license permitted, or at least winked at, by the authorities, with some queer notes respecting the extortions practised by the jailers upon their charges. The Diary extends from April 14, 1716, to July 18, 1717, the rebels of whom it treats being some of the less notable movers in the Jacobite rising of 1715.

Passing over the *Newgate Calendar* and the *Annals of Newgate*, a series of biographies and details of trials, &c., by the Rev. Mr Vilette, then Ordinary of the jail, we come, a century later, to

a work by one of the philanthropists who took up the cause of the prisoners in 1817, entitled *A Twelvemonth's Visit to Newgate*, said by its author to contain 'a faithful account of the character and conduct of twenty-three persons, out of twenty-seven, who suffered the awful sentence of the law, in the City of London, during the year 1817.' Of more recent years, we find an interesting account of life in the City jail and of its internal economy, in *Five Years' Penal Servitude*, by One who has endured it. The graphic pictures which this writer has given us are too familiar to our readers to need recapitulation. His narrative of the daily routine of the jail, the strict and careful supervision to which prisoners are subject, and the ingenious mechanical contrivances which enable the warders, themselves unseen and unheard, to keep a watch upon the prisoner's every movement, presents a sufficiently clear idea of existence within the 'Stone Jug,' to satisfy the most curious, without any necessity for personal acquaintance with the interior of the prison. Many of his suggestions for bettering the lot of the criminal classes, and of obviating the risk, not only of further injury to the guilty, but, what is more important still, of irremediable wrong to the innocent, are so excellent, and apparently so feasible, that we shall hope to see them carried into effect in the new City prison, when Newgate itself exists only as a memory of the past.

#### THE CONJURER OUTWITTED.

The following incident was narrated to the writer in Lisbon by the victim himself, a celebrated Austrian sleight-of-hand performer.

It has long been a stock 'dodge' of professional conjurers, and one which must be tolerably familiar to the public by this time, to excite notoriety in some way or other, immediately on their arrival in a provincial town; and one of those dodges is to hire a cab, drive to the leading hotel, and then refuse to pay the cabman. A violent altercation of course ensues; a policeman is summoned; the Professor gives his card freely—very freely—but declines to tender more solid satisfaction, on the ground that he has paid already; but that, in a momentary absence of mind, he has 'passed' the fare into the cabman's boot, or underneath the lining of his hat. Jehu for a long while indignantly refuses to remove the article of clothing indicated; but at length complies with reluctance. There, sure enough, is the required sum, or perhaps double its equivalent; and the fame of the conjurer being thus early noised abroad, he gets a good house in the evening. Should he be giving two performances on consecutive evenings in the same place, he may go to the market on the morning which intervenes between them; then, selecting an egg from some old woman's basket, he breaks it, and finds therein a gold ring, a live canary, or a sovereign. Another, and another, and yet another, are purchased and cracked with a like result; until, the cupidity of the owner being aroused, she hastily announces her determination not to sell any more, and forthwith proceeds to demolish the whole of her stock-in-trade on her own account. Naturally, she is rewarded with the discovery of nothing more

than the legitimate yolk and albumen; and loud will be her lamentations and bitter her invectives against the sorcerer who has thus beguiled her into making herself the laughing-stock of the entire market. Her denunciation, however, will rather redound to his credit than otherwise, and manifest itself in overflowing benches at the Town Hall, Assembly Rooms, or Institute, the same night.

The true explanation is a very simple one, both being matters of pre-arrangement, for which the confederates, namely the cabman and egg-vendor, are well paid. No doubt, if a conjurer sees an opportunity of improvising a trick, and making a *bona fide* impromptu hit, off the stage, he will not be slow to avail himself of it; but such chances of creating a public sensation are rare. The same end is far more easily attained through the intermediate agency of a few moments' private conversation between his servant and the 'subject' to be operated upon. No earthly power could insinuate a coin into an ordinary boot without the wearer's knowledge and consent; nor would any ordinary woman be such a fool as to go on breaking eggs by the dozen in the hope of realising results which have obviously been effected by a *tour de force*. But it is an extraordinary circumstance that the public will never accept a commonplace, common-sense explanation of a conjuring trick. The popular idea runs on springs and traps and invisible wires; and a simple solution of a mystery is petulantly rejected, as an insult to the understanding. People like to be deceived, but they do not like to be told how easily this may be done; and sleight-of-hand performers take advantage of this human weakness to clothe some of the most ordinary feats of legerdemain with an environment of mysticism, and by so doing, render them more telling than any which are executed by all sorts of mechanical or electric apparatus.

'Suppose,' I once suggested, interrogatively, to Delisle, 'the cabman, who might be well known in a quiet country town, should tell?'

'He will—he does, the first time he gets drunk; but it doesn't matter. Nobody believes him!'

My Austrian friend was lately making a provincial tour through the south of France, and in the course of it came to a certain town which was of so little geographical or commercial importance that he had hesitated to include it in his 'fixtures.' It formed a convenient resting-place, however, between two larger and more promising places, and he resolved to halt there for a single night. Notification of the coming entertainment had, of course, been duly billed some days in advance. As soon as he had arrived on the scene, the old programme was carried out. The cabman, a dull, stupid-visaged Gascon, having got the scheme with difficulty fixed in his brain, and a five-franc piece with less difficulty fixed in his boot, was instructed to drive the conjurer round the town, and exhibit to him the principal public buildings and objects of interest—in other words, to give his fare an opportunity of exhibiting himself as the coming man—who had come; and constituting in his own person the leading object of interest to the dwellers in that monotonous little French town. Then back to the Railway Hotel, where the regulation

business began. Jean stolidly refused to accept the assurance that he had been paid ; could not be induced to believe that it was 'all right,' didn't want tickets for the performance instead, and held out his hand doggedly for the money—so doggedly and with such heavy incapability of being roused to irate animation, that the disputant had himself to suggest that a gendarme should be fetched. This was quickly done by one of the by-standers ; and with well-feigned protestations and remonstrance, the supposed defaulter was hauled before the local judge. And here, having strenuously asserted his injured innocence with profuse circumlocution, he wound up by stating that he had offered the driver five francs, being the amount of his fare and something in addition ; but that he was so slow in taking it, that he, the donor, had caused it to pass into his boot, in a fit of impatience. Such things, he assured the avowedly incredulous magistrate and spectators assembled in the court-house, were not only possible, but easy of performance, by virtue of the magic art which he possessed ; that he was sorry he had done it, since it had caused all this bother, and rendered it necessary to intrude on the valuable time and attention of justice ; but that he could not afford to pay twice, and was, moreover, desirous of clearing his character from the imputation of dishonesty which had been cast upon it, and which would materially injure his financial prospects for the evening. In short, would the judge be good enough to order the cabman to take off his left boot, and he would pledge his word of honour that the five-franc piece should be found in it, before all witnesses.

The old programme, as I have said ; but here a certain unrehearsed incident occurred to vary it. The simple Gascon did not deny that there might be a five-franc piece in his boot—in fact, he admitted that such was the case—but he utterly negatived the proposition that the late occupant of his vehicle had anything to do with its being there. He always kept his money in his left boot for safety, he said. And indeed, when the great cow-hide foot-covering was removed, out dropped not only the five-franc piece, but several other coins !

The magician was beaten with his own weapons. His case was looked upon as an impudent attempt at fraud on a poor untaught cabman, whose peculiar receptacle for money he had noted, and sought to take advantage of ; and he had to pay a second time, and look pleasant. He returned to the hotel on foot, attended by an inconveniently demonstrative rabble, and found, furthermore, that mine host declined to furnish him with bed or board unless he were paid for everything beforehand. Indeed, the worthy landlord plainly hinted that he would not be sorry to be relieved of his custom altogether ; and was only persuaded to grant him a dinner and a night's lodging by the earnest solicitations, coupled with the display of a well-filled purse, which his guest was induced to make, owing to the fact of the town boasting no other hotel.

Nevertheless, he had a fairly good house in the evening ; and like a sensible man, who had seen many vicissitudes, and was prepared to turn

everything to the best account, he made what he could out of his misfortune—since there was no possibility of hiding his defeat—by frankly confessing to it, and relating the whole adventure to his audience, as a capital joke against himself. He had been fairly nonplussed, he owned, by the stupid-looking cabman—he, who had already given them some specimens of his skill, and was about to exhibit more ; but he did not regret it. Such a lesson in tactics was worth double the money it had cost him. He then described the proceeding from beginning to end ; the man's apparent tardiness of comprehension ; his receiving the coin from the conjurer, and getting inside the *vouiture*, that he might slip it, according to orders, into his boot unobserved ; and the dull unintelligent demeanour he had maintained all through the little drama in which cabby had played his part to such perfection. In conclusion, he addressed himself to the back seats, and invited his Boeotian friend, if he were present in the hall, to come forward, and show himself as the man who had cheated the conjurer at his own game ; when he would be very happy to hand him another five francs wherewith to drink the health of the company.

The ingenuous peasant did not 'come forward,' but he was most likely present, and listening with all his ears ; for next morning he called on the entertainer, as the latter was seated at an early breakfast, and introduced a lawyer, who threatened an action for defamation of character, on behalf of his client, in that the speech laudatory of his acuteness, made last night, amounted to a public accusation of obtaining money under false pretences ! His client was a poor and illiterate man, but honest as the day, with a good name, and a wife, and all the rest of it, that all such people seem to have when any legal question crops up. How much it cost my friend to soothe that poor but honest man's breast, I do not know ; but he assures me he will never pay another visit professionally to the town thus underlined in his reminiscences ; and that for the future he shall invest spare five-franc pieces in better securities than cabmen's boots, especially those worn by fatuous-looking Gascons.

#### THE MONTH. SCIENCE AND ARTS.

RECENT contributions to geographical knowledge have been both numerous and important. The publication of the English translation of Baron Nordenskiöld's *Voyage of the Vega round Asia and Europe*, once more arouses interest in the ice-bound Polar regions. Not only does this book give an account of the recent Voyage, with copious notes of observations taken during the time, but it contains a full account of what has been done on the same ground by earlier explorers. It forms perhaps the most comprehensive account of the Arctic regions which has ever appeared.

For a long time past, Mr E. G. Ravenstein has been occupied, under the auspices of the Royal Geographical Society, in producing a map,

on an unusually large scale, of Eastern Equatorial Africa. This map will comprise twenty-five sheets, the first seven of which have just been published. Here we find the routes marked which have been traversed by different explorers, together with much useful information concerning them. Numerous blank spaces show that, in spite of the great efforts already made, there are many parts of the continent about which absolutely nothing is known. This map makes its appearance very opportunely; for, at a late meeting of the Geographical Society, two papers were read on recent travels in Central Africa. It is obvious that the interest attaching to such works is greatly enhanced by the help of such aids as this new map affords.

We learn that two Companies have been formed for the development of the coal-fields in Cape Colony. It has long been the opinion of geologists that certain parts of South Africa would yield vast quantities of coal; and for some time past, coal-mines at Moltenco and Paardekzaal have been worked with very successful results. One of these mines, the Moltenco, is of an unusual type. It consists of a hill which has been pierced with a shaft from its summit, with another horizontal heading driven into it from its base. This mine is estimated to contain at least half a million tons of rich coal. A line of railway is being laid between Moltenco and East London; and as the district is rich in ironstone as well as coal, it has probably a prosperous future before it.—In this connection may be mentioned a projected railway in West Africa from the Gold Coast to the interior, which will open up a district rich in palm-oil, india-rubber, and other products of this fertile land.

Mr Rassam, the well-known discoverer of Assyrian relics, lately gave, at a public meeting, a brief account of his recent doings. At about twelve miles from Bagdad, a ruin was pointed out to him by an Arab; and he at once commenced some excavations there. After several days' work, the diggers came upon an enormous building, containing several chambers. Most of these were paved with brick or stones; but one had a floor of asphalt! Numerous inscriptions were found on this building; but the most important discovery was made by the workmen after Mr Rassam had been obliged to come home. In one of the rooms there were found records inscribed on nearly ten thousand tablets. These tablets are on their way to England; and until they reach the hands of experts, it is impossible to say what story they may unfold. Suffice it to add that we may be on the verge of a discovery that may prove more important than anything yet achieved in the history of Eastern research.

While on the one hand archaeological students have been busy unearthing treasures such as these, others have been doing a no less important work in solving the meaning of those inscriptions which without their labours would have had no meaning for us. Among these last may be mentioned M. Revillout, who, during the past few years, has devoted his time to the translation of certain papyri written in the demotic, or later handwriting of the Egyptians. A vast number of legal documents, dating, some of them, five centuries prior to the Christian era, have for many

years been lying at the Louvre. Of these documents, M. Revillout has made careful translations. They principally consist of marriage contracts and settlements, conveyances, mortgages, and other monetary transactions, and are full of interest, when we bear in mind the lapse of time since they were inscribed.

The wonderfully rapid progress of electric illumination has induced the Committee of the Franklin Institute to issue a Report specifying a number of precautions which should be observed in fixing wires and apparatus, so as to prevent accidents to life or property. Some fatal accidents have already occurred in this country through ignorance in handling cables through which a current was passing; and it is perhaps a matter of surprise that these accidents should have been so few, seeing that experience has been so limited in dealing with electric apparatus. The Committee recommend that all wires should be of sufficient size to carry the most powerful current used, without dangerous heating; and to avoid danger to life from discharge through the body, the wires should, whenever convenient, be placed out of reach, or deprived of danger by sufficient insulation. These are the two most important cautions conveyed in the Report; but other details of management are suggested which are well worthy the attention of all electric engineers, some of whom must necessarily be inexperienced in what must yet be considered a new industry.

A recent lecture at South Kensington, by Mr W. J. Bover of Leeds, on 'Smoke Abatement in Connection with Glass and Pottery Burning,' contained an account of Thompson's Gas Kiln. This kiln would seem to present many advantages in the way of absence of dirt, smoke, and fumes, and also in economy, over the methods of burning pottery generally adopted. By the system of gas-firing, glass and porcelain can be more perfectly fired than by the older process, for the heat is far more uniformly distributed; while there is a complete absence of those sulphur-fumes which are inseparable from the use of coke. At one factory, the cost of gas consumed and labour was one shilling, as compared with four shillings per firing in the old coke-consuming kiln. Moreover, whereas the former kiln could be fired six times daily, the latter could only be used once. There is no doubt that the same system could be applied to bakers' ovens and other uses; and when manufacturers are taught to believe that such a saving as we have indicated can be insured by the adoption of the new system, they will no longer care to decorate their tall chimneys with those vast black banners of smoke which work such havoc on the atmosphere of our large towns.

Some further experiments with the new Fire-proof Asbestos Paint were lately conducted in the grounds of the Crystal Palace, Sydenham. Two large structures made of timber, and representing theatrical stages, with drapery, curtains, and ropes, were prepared for the occasion; the one being treated with the Asbestos composition, and the other being left unprotected. A pile of shavings and other combustible materials was placed on the stage of each erection, and both were ignited at the same instant. The unpro-

tected structure was soon destroyed in the fierce heat; while that which had received a coating of the paint, resisted the fire most successfully. At the end of half an hour, some portions of the latter began to smoulder away; but there was no actual outbreak of flame. The form which these experiments took was, of course, suggested by the recent calamities at Nice and Vienna; and the results obtained clearly prove that builders and decorators have now at their disposal the means of averting the most dreaded form of disaster.

From the French scientific journal *La Nature*, we cull the following recipe for making a pretty and cheap room ornament. Procure a cheap sponge, the larger the better; place in warm water, and squeeze out all the moisture. Plant in the holes, seeds of millet, barley, purslain, red clover, grasses, &c., and in general any seeds which will germinate easily, and which will afford a variety of colour. Hang the sponge so prepared in a window, or place it in vase where the sun will reach it, sprinkling it with water every morning for a week. It will soon be covered with vegetation—to remind those whose lives are unfortunately spent amid bricks and mortar, of the brighter world outside.

The late fatal explosion on board H.M.S. *Triumph* reveals the curious fact that our navy has for some time been provided by government with kegs of material representing 'infernal machines' of a most deadly kind. *Xerotine siccativa* is a compound of boiled linseed-oil and certain metallic oxides or salts. Under the name of 'driers,' such compounds are continually used for mixing with oil colours, so that they may readily dry; and hitherto, such harmless materials as litharge, red-lead, plaster of Paris, &c., have been enlisted into this service. Latterly, however, salts forming very unstable compounds when mixed with the oil, seem to have come into use; and for some incomprehensible reason, their dangerous nature has been unknown to the authorities. The mystery attaching to the awful *Doterel* explosion, when an entire crew were sacrificed, is now explained. We may feel certain that a calamity such as this will never again be allowed to occur from the same cause.

The want of a standard light for photometric purposes has long been felt; and since the introduction of electric illumination, some better means of measuring the light given by various systems than that hitherto adopted has become imperatively necessary. The old standard, the sperm-candle, becomes, through unavoidable variations in manufacture, a very uncertain unit of light; and the Careel burner adopted by the French is also unsatisfactory. In order that some definite agreement should be arrived at respecting this important subject, a Photometric Committee was appointed by the Board of Trade to inquire into, and report upon, the matter. This Committee has now finished its labours, and recommends the adoption of an air-gas flame—first suggested by Mr Vernon Harcourt—as the most reliable for the purpose. This contrivance consists of a brass burner with a quarter-inch aperture, giving a flame two and a half inches high. It is fed with a definite mixture of the vapour of light petroleum and atmospheric air. The flame produced is constant and trustworthy, and is in every respect suited for the purpose indicated.

The Channel Tunnel scheme, which some years ago was derided as an impossibility, seems to be in fair way of successful realisation. A meeting of the Submarine Continental Railway Company has just been held to take over from the South-Eastern Company those experimental borings which have convinced engineers that the enterprise is merely one of time and money. Sir E. W. Watkin, who presided, claimed that as there already existed in Great Britain fifty-eight thousand miles of underground tramway and roadway in our mines, we need not be frightened at the proposal to add another twenty-one miles of subway, which represents the length of the proposed tunnel. The cost is estimated to be far under the four million pounds prophesied by previous engineers—a great saving being represented by the dry nature of the workings through the gray chalk. The progress made by Colonel Beaumont's Compressed Air-borers is at the rate of twelve yards per day of seventeen hours; but a machine will presently be at work which will cut its way at the rate of one yard per hour. Thorough ventilation is maintained in the workings by the exhaust-air from the machine, and no trace of carbonic acid from the chalk can be detected by the most rigid test.

It has long been known that the Davy Safety Mining Lamp, under certain conditions, is not by any means a safeguard against explosion. With an explosive atmosphere moving through the passages of a mine with a velocity above a certain standard, the wire-gauze of the lamp no longer forms an effective barrier to the flame, and explosion then becomes possible. To meet this difficulty, a kind of cover to the lamp has been devised under the title of 'The New Tin Can Safety Lamp.' It consists—as its name implies—of a tin case for the reception of the lamp, which acts not only as a guard from the draught, but is also a great protection to the lamp itself. There is a lock on the case; and a glass front, through which its light can pass. This lamp was exhibited at the last meeting of the Manchester Geological Society, held at Wigan; and it was stated that its invention was claimed by two or three different miners, but that it was impossible to say to whom the credit of it rightly belonged.

A Report has been published which shows that during the year 1881 the managers of collieries received forty-two warnings from private persons. Twenty-six of these warnings were followed by explosions, thirteen of which proved fatal, and involved the loss of nearly one hundred lives. Most of these explosions were accompanied by high barometrical pressures, and may be traced not only to the effect of this pressure upon the coal, but also to the accumulation of fire-damp in the workings, owing to decreased ventilation from stagnation of the atmosphere above, a condition which it almost invariably assumes when the barometer is high. It may be assumed that these warnings have not been in vain; for the loss of life, as stated above, is less than half the average of preceding years.

It is well known that in the case of coal-pit explosions from gas, a great many deaths are due to the after-damp. To provide a remedy for this, it has been suggested that strong-rooms for refuge might be made at different places on each level

in a pit; but this suggestion, owing to the expense and difficulties of construction, did not find favour with the government inspectors. A correspondent writes to us, however, stating that the thing is by no means impracticable; and that if these strong-rooms, or places of refuge, were connected with the surface by a tube through which a supply of oxygen gas might be forced into these rooms, and if a small store of food, such as ship-biscuits, and water were always kept in them in case of emergency, many lives that are otherwise sacrificed, might be saved. The idea deserves to be thought out.

The French scientists are keenly alive to the importance of weather telegraphy. For the past seven years they have established an Observatory upon a shoulder of the Pic du Midi, in the Pyrenees; but not content with this, the staff employed have quite recently shifted their quarters to the summit of the mountain, nine thousand five hundred and forty-four feet above the level of the sea. Here is established a comfortable dwelling, which forms a great contrast to the meagre accommodation provided for Mr Wragge during his daily ascents of Ben Nevis. A house, with a covered-way leading to the instrument platform, workshops, and a laboratory, complete the arrangements. More important still, a telegraphic wire to the base of the mountain records daily the progress of the work above. The staff, it may be added, numbers four; and they have hitherto found the cold—under the conditions named—to be quite supportable.

Sir Joseph Hooker's Report on Kew Gardens, lately issued, contains an interesting account of the Cola Nut—the seed of the *Cola acuminata*, a tree which has been very successfully propagated in the Gardens. The Cola Nut is said to enhance the flavour of anything eaten after it, and is also said to possess extraordinary power in allaying the pangs of hunger. It is, however, chiefly used as a luxury, and is in great demand among the natives of the Gambia. The trade in this nut has much increased of late years, and in 1879 reached seven hundred and forty-three thousand pounds. The plant—a native of the Sierra Leone district—has been introduced into the West Indies, and has been distributed from Kew among the Botanic Gardens in various parts of the world.

We elsewhere allude to the useful work which has been patiently accomplished by Miss Ormerod in collecting, from various parts of the United Kingdom, evidence of the destruction wrought upon farm-crops by different insect pests, and of the means adopted as remedies. She has just completed a new series of returns that are shortly to be published. These are full of interesting matter not only to the agriculturist but also to the entomologist, and even to the amateur in search of new specimens for his microscope; for not only are our old friends—or rather enemies—the fly of various kinds, the daddy-long-legs, the wireworm, aphides, &c., fully represented, but there is here recorded the first appearance—it may be the first observation—of some kinds of destructive creatures never before enumerated in the list. The observations for the past year are thus remarkable for these new acquaintances, and, unfortunately,

for unusually severe attacks by better-known delinquents.

It will surprise some readers to learn how many more things than tinned meats are produced in Australia. The Australians, for instance, possess eight million head of cattle, seventy million sheep, and a million horses, besides pigs and goats. Much of the wool which grows on their sheep is imported into this country; and of the total of four million pounds-weight of wool which we annually receive from all sources of supply, three million pounds, or three-fourths of the whole, come to us from Australia. As some portion of this wool must go back again when manufactured, it has been fairly asked, Why not transfer some of the home manufactories to the colonies, where the operatives can be fed as well as here, and cheaper?

We learn from *Nature* that the Danish Society for the Protection of Animals—under the patronage of His Majesty the King of Denmark—offers two prizes, of two thousand and one thousand francs respectively, for the best and second-best scientific essay on that part of the Vivisection question which concerns the possibility of substituting recently killed animals for living ones, for the sake of physiological investigations. The essay should sufficiently indicate previously unknown cases, in which such a substitution of dead material may be applicable. In these essays, the possibility and desirability of replacing painful experiments on animals by some other methods of research, may also be a subject of inquiry. The essays may be written in the Danish, Swedish, English, French, or German languages, and forwarded before September 1, 1882, to His Excellency Mr A. de Haxthausen, President of the Danish Society for the Protection of Animals, at the office of the Society, Copenhagen. 'Our Society is only too well aware that the claims of humanity are not to be satisfied by these means, as extensively as it could wish. It will, however, feel itself richly rewarded, if its efforts result in diminishing the number of experiments in which animals are subjected to great and lingering agony. In this earnest hope, we respectfully request all humanely disposed scientific men of every country in the world, kindly to comply with our invitation.'

#### BOOK GOSSIP.

IN spring-time the forces of Nature are not wholly on the side of the husbandman and gardener. Its soft winds and dewy rains—its 'ethereal mildness' generally—while they revive the heart of the vegetable world, and waken the plants and flowers from their long winter sleep, infuse at the same time renewed vitality into various forms of animal life that have also been dormant throughout the colder season. Countless insects, many of them of destructive character, now burst their pupa encasement, showing that their period of suspended animation has ceased; and an army of maggots, slugs, and caterpillars are let loose upon the farmer and the horticulturist. If the winter has been mild and open, and marked by an absence of long or intense frosts, then the inroad of these crawling pests is aggravated, because more of the eggs, larvae, and chrysalids have

managed to retain life throughout the winter than would have been the case if they had been subjected to very severe cold.

For both farmer and florist at such a season, we do not know a more useful book than that by Miss Ormerod, being *A Manual of Injurious Insects* (London : W. Swan Sonnenschein and Allen), with methods of prevention and remedy for their attacks on food-crops, forest trees, and fruit. It begins with a short chapter on entomology, in which an outline of this branch of science is given, along with woodcuts of the chief insect pests in their various life-stages—egg, larva, pupa, and imago or perfect insect—which cannot fail to enable the farmer at once to identify his insidious foes, and to take means for their destruction. The different kinds of vegetables, fruits, trees, crops, &c., are arranged alphabetically, and under each heading the special enemies of the plant are noticed and described under their common names, and means suggested for the prevention or remedy of their attacks. The work is the result of many years' observation and experiments, made with the assistance and co-operation of men of wide practical experience, and cannot fail to prove of signal advantage to all engaged in agricultural and horticultural pursuits.

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Another new book that may appropriately be referred to at this season of the year, is Mr Heath's latest volume, *My Garden Wild* (London : Chatto and Windus). The title at first sight appears to be somewhat fantastic ; but becomes less so as the purpose of the book is developed. Mr Heath, who has already written many excellent books on forestry, ferns, heaths, &c., undertakes in this volume to tell how he proposed to himself to have a garden filled, not with 'florists' flowers,' as the highly artificial productions of our flower-gardens have been sarcastically called, but with Nature's flowers—the flowers that bloom by the wayside and in the hedgerows, by the mountain streamlet and the silent lake—primroses and daisies, the wild-rose and the bindweed, foxgloves in their purple pride, and brackens in their livery of luxuriant green. The proposal thus made, Mr Heath succeeded in carrying out into practice, and those who would wish to follow so pleasant an example may find guidance and instruction in his book. The task of transferring to a four-walled inclosure in a back court the freshness and beauty of country flora, was no light one, and involved the study of Nature in her minutest phases, so that the flowers thus transported might continue to live as nearly as possible in their native condition and amid their native surroundings. All, this, however, Mr Heath did ; and how he did it he tells for himself ; and all who have read his *Fern Paradise* or *Burnham Beeches*, must know how well Mr Heath can tell such a story. The book is full of charming little bits of nature-drawing, which bring back to the reader the scents and sounds of forest life, till he almost thinks himself once again sitting among the ferns by the woodland spring, or wandering through meads 'with daisies pied.'

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A very pleasant book for little folks is Mrs Saxby's *Snow Dreams* (Edinburgh : Johnstone,

Hunter, & Co.). The North Wind, King Christmas, Johnnie Frost—all favourite characters by the nursery fire—are here found doing and saying odd things, and playing many parts. For a group of boisterous youngsters, unthinkingly forgetful of the oft-repeated injunction to be quiet, we do not know a more amusingly warning story than that of 'The Giant's Pie,' and what it was made of. Then there is 'Tommy Kitten,' the 'round, plump, soft boy, with no corners anywhere about him ;' and a host of other characters, big and little, whose adventures and sayings and doings will brighten the heart of many little ones. The book adds to its other graces that of being elegantly printed and illustrated.

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From the time of Argus, the wise old dog that after many years recognised and welcomed his much-wandering master, down to that of 'Rab and his Friends,' and later, our dogs have been much written about, and still more talked about. Their sagacity, their docility, their cleverness, their bravery, their kindness, and above all, their loving and more than human fidelity to their masters and friends, have been the theme of countless anecdotes and of unwearied interest. The number of books on our four-footed friends is always being added to, and the additions are almost always welcome. To this roll must now be added another pleasant contribution, namely, *Dogs of other Days*, by Miss Eve Blantyre Simpson (Edinburgh : Wm. Blackwood and Sons). A portrait of the author's father, the late Sir James Simpson, known over the world as the discoverer of chloroform, forms the frontispiece of the little volume, in which are recorded the lives of no fewer than nine dogs—from the great sagacious 'Nelson,' down to the tiny 'Mona,' with its long, erect, hare-like ears, and its little round bullet-head. The stories are pleasantly told, interlaced with bits of quaint description and gleams of quiet humour.

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Village life in Scotland in the olden time was the true nurse of much of that individuality of character which has always been distinctive of Scotchmen as a class. The people were fairly educated, as education went in those days, yet not so much so as to be educated out of themselves. The 'levelling' process, which is one of the tendencies of our modern culture, both in society and in schools, did not then operate so extensively as now, and in villages and small towns, its influence may be said to have been scarcely felt at all. The oddities and eccentricities of character that might be natural to the individual, were therefore left to develop themselves—were not snipped off in early youth, and the child made to grow up as nearly as possible the same as everybody else. It was out of such material as these simple communities supplied, that Sir Walter Scott constructed his Dandie Dinmonts, Cuddie Headriggs, Ritchie Monplies, and others of the same order.

And the material is not exhausted yet ; for here is a book entitled *Bits from Blinbonny* (Edinburgh : Oliphant, Anderson, and Ferrier), which consists entirely of a kind of character-

sketches woven into the fabric of a slight plot, many of which sketches are most admirable for the touches of homely humour and snatches of village wit which creep into them everywhere. The parish minister and his manse form the centre, as it were, of the group; but the principal figure in that group is not the minister, nor his wife, nor even the 'minister's man'—the butt of so many stories—but the minister's 'maid,' 'Bell o' the Manse' is the heroine of the book, and a well-drawn character she is, with her quaint ways, her happy expedients, her clever but never shrewish tongue, her simple yet strong fidelity to the family she served, and her wise and droll and pithy sayings. Dan Corbett, the one-eyed smuggler, poacher, mole-catcher, and a dozen other things besides, is a typical representative of a class which no Scotch village was ever without; and ranks next to Bell, perhaps, as a finished portraiture. The author, who screens his personality under the pen-name of 'John Strathesk,' has succeeded in giving us a graphic picture of what village life in Scotland was thirty or forty years ago.

OCCASIONAL NOTES.

THE TOWER OF LONDON.

It cannot fail to interest many readers to know that the government are about to take steps to restore this fine old Norman strength to its ancient dignity as 'the Fortress of London.' The White Tower, which forms the central keep or donjon, was built in the time of William the Conqueror, and since then has had a part in every historic movement of the English people, and been the prison and death-place of many a noble personage whose names shall never fail out of English history. For long it has been degraded to a kind of storehouse for military arms; but this, it is announced, is now to cease. The arms are to be removed to some more central position, and an increased garrison is to be placed in the Tower.

CRITICS OF SCULPTURE.

Sculptors who execute busts often hear droll things said. Here are two anecdotes, taken from a French newspaper. A sculptor had produced the likeness of a celebrated personage, in whose biography it is mentioned that he regarded architecture as a very secondary art. The son of this personage visited the artist's studio for the purpose of examining the bust, when, after considering it with the air of a connoisseur, he said: 'Could you not express more clearly his contempt for architecture?'

Another time it was the husband of a beloved deceased wife who came to see her bust. 'Pray, study it well,' said the artist; 'it is only in the clay, and I can still alter it.' The widower looked at it with the most tender interest. 'It is her very self!' he exclaimed; 'her large nose—the sign of goodness!' Then bursting into tears, he added: 'She was so good! Make the nose a little larger!'

The above seems capped by the personal recollection of a correspondent, who writes as follows: 'Quite fifty years ago—for it was at the time that the Exhibition of the Royal Academy was held in Somerset House—I was paying a visit to the room devoted to sculpture. There were but three or four persons in the room, and the silence was complete, until it was broken by the exclamation of a girl of about fourteen, who was evidently under the care of a motherly sort of woman of about fifty years of age. "Oh, there's Lord B——!" cried the young girl—"how like!" pointing to a bust which was in truth an excellent representation of a well-known statesman—"Like!" retorted the elder personage in a tone of ineffable scorn—"like! Why, don't I know his face as well as I know yours, and isn't his nose always twitching?"'

LAND-SUBSIDENCES IN CHESHIRE.

In this *Journal*, for January 22, last year, we gave an account of the operations of brine-pumping in connection with the production of salt in Cheshire, and the dangerous subsidences of the land in many localities owing to these pumping operations. The water which percolates into the salt-beds, eats away the rock, and when the liquid brine thus produced is withdrawn by the pumps, great cavities are necessarily left, into which the superincumbent rocks and soil have a tendency to sink. The danger thus arising to the villages and other buildings on the surface has recently been greatly increased, and the frequent and vast subsidences are exciting considerable alarm in the affected districts. The Dunkirk district, the scene of the great subsidence of December 1860, described in the article above referred to, has since shown itself to be thoroughly shaken. The subsidences going on there are visible from day to day; while at intervals sudden sinkings of great depth appear, and let in the fresh water to the brine-pits. This extraordinary access of water adds, of course, to the danger, as the salt-rock is thereby the more rapidly dissolved and eaten away. The amount of damage done to Ashton's works alone (which are situated close to the sinking centre) is estimated at over two thousand pounds. In Marston, the sinking called 'Neumann's Flash' extends and deepens continuously. At Leftwich, the subsidence has developed so rapidly that every few days a portion of the main highway has been drawn into the sinking. Since September last, the Local Board have filled in a series of holes forming on the same spot, which in the aggregate have amounted to fifty feet in depth.

So long as the making of salt is carried on in the district, necessitating, as above explained, the withdrawal of so much brine from underground, these dangerous subsidences may be expected to continue in an increasing ratio as the ground below is being more and more undermined.

SPLIT-LUG RIG FOR FISHING-BOATS.

We have received a lithographed sheet from Messrs W. & A. K. Johnston, Edinburgh, showing

a boat mounted with the Split Lug as a rig, instead of the Dipping Lug now generally in use amongst the more northerly of the British fishing communities. The former is believed to be superior both in respect of handiness and safety to that presently in use, and is designed by R. B. A. Macleod, Esq. of Cadboll. Admiral Rutherford, an officer of great experience in everything connected with the East Coast Fishings, has, in a letter to Mr Macleod, expressed himself as follows with regard to the Split-Lug Rig : 'I have observed that you are strongly advocating the Split Lug as a rig for fishing-boats, and sincerely hope that you will succeed in getting it a fair trial, because, in my humble opinion, it is the safest and handiest in all respects, and infinitely superior to the huge Dipping Lug and enormous mast now in vogue. In working to windward, the Split Lug insures the boat coming round—no dipping required. The mast is shorter, stepped further aft, and got down with more ease. When taken aback by a sudden shift, all that is required is to haul aft the opposite sheets, the sail is at once full, and the boat under perfect command. With the Dipping Lug under similar circumstances, the sail comes down with great difficulty, often with some danger, and has to be dipped and rehoisted, involving a deal of lost ground. In a gale, your mizzen set on the mainmast would make an admirable storm-sail for lying to, and if the fishermen would, when caught in a bad gale, put their boat's head off the land instead of running in, they would be in a much safer position. Fishermen, like most of us, are wedded to old opinions. Some object to the rig in question because on one tack the yard must be on the weather-side of the mast. My answer is to point to the French lugger, who keep the sea in all weathers.'

It is believed that the adoption of this change of rig—a model of which will, we hope, be shown at the forthcoming Fishery Exhibition at Edinburgh—would have the effect of saving much life and property to the fishing communities.

#### COLOUR-BLINDNESS.

From advanced sheets of the 'Imperial Maritime Medical Reports' for 1881, by Dr Macgowan, issued for obtaining information from Japan and Indo-China, we are enabled to give the following interesting notes on the absence of colour-blindness among the Chinese :

'In various parts of the Empire and for several years, I have sought information on colour-blindness, interrogating painters, dyers, and others likely to become acquainted with that visual defect, without finding evidence of its existence. Lately, through the courtesy of Mr Douthwaite, I obtained the services of his hospital native assistant in subjecting to examination above one thousand applicants for relief at that institution. The result of the examination, and that which I myself made among the crews of gunboats, failed to afford evidence of the existence of Daltonism. The irides of those examined were generally dark hazel, the others black, colours prevalent in China. The rarity, if not absence, in China of that defect of vision, or rather of the sensorium, and the absence of evidence of its existence except among Europeans and Americans, is suggestive of inquiry if this colour-blindness is not an ethnic char-

acteristic. The examinations instituted in India among candidates for employment on railways were probably restricted to Eurasians, and the cases there discovered may not have been those of natives. Nubians, it has been lately ascertained, are free of the defect.'

'It having been demonstrated that from five to seven per cent. of Americans and Europeans are at fault in distinguishing between colours—red and green, for example (railway signal colours), it is presumable that among the hundred or more pilots of the China coast there are several who are thus disqualified from following that vocation, and it would only be in accordance with recent legislation in the West if that most useful class of our fellow-residents were subjected to the usual tests for colour-blindness.'

[In connection with the foregoing statements regarding the inability of some persons to distinguish one colour from another, we may mention that the late Professor George Wilson of Edinburgh experimented upon many hundreds of individuals, nearly eighteen per cent. of whom were more or less colour-blind! With such proof as this, it behoves railway Companies to appoint their servants only after special examination as to their ability to clearly distinguish one colour from another.—ED.]

#### LINES

SUGGESTED BY A BIRD SINGING, A WOOD-PRIMROSE  
IN FLOWER, A CHILD PLAYING, AND AN  
EARLY BUTTERFLY, Jan. 18, 1882.

SWEET Bird, whose carol on the winter thorn  
Tells of glad Hope within thy pretty breast,  
Wait ere thou singest! Winter may be born,  
And all these sunny fields with snow be drest.  
Yet who can blame thy song? Would I might know  
The Faith and Hope that in thy joy-notes flow!

Dear Flow'ret! To thy thinking, Spring has come;  
Thou hastenest all thy beauties to unfold,  
And in a nook of thy soft woodland home,  
Dost shine amid the moss like star of gold.  
How can we chide thee? Oh, for strength to meet  
The coming Storm—so bloom in fragrance sweet!

Fair Child, who sees no Future, knows no Past,  
Sing on, and fear not! But the Storm will come:  
Thy thoughtless joyance may not always last.  
Yet smile within the shelter of thy Home!  
Care comes with years—but thine the glad To-day.  
Strength will be given, and patience for the Way!

Poor Butterfly, which flutterest in the sun,  
With white wings spread, to catch its transient heat,  
Thy little life, perchance ere day is done,  
Will pass away. A thing so frail and fleet  
Is scarce worth being born—yet flutter free:  
An emblem of our day is seen in thee.

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